



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,668	11/25/2003	Stephen L. Spear	CE11711R	5948
22917	7590	08/29/2005	EXAMINER	
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196			KHUONG, LEE T	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,668

Applicant(s)

SPEAR ET AL.

Examiner

Lee Khuong

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/23/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/8/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5, 7-11, 21-24, 35 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gwon et al. (US 2003/0104814) hereinafter is referred as Gwon in view of Soininen et al. (US 2002/0049059) hereinafter is referred as Soininen and further in view of Mizell et al. (US 6,670,344) hereinafter is referred as Mizell.

Regarding claims 1 and 21, Gwon teaches a method and a system of Low Latency Mobile Initiated Tunneling Handoff comprising: registering the mobile station (135, Fig. 2, *a mobile node at node A, MNA*) with a first Serving GPRS Support Node (SGSN) (145, Fig. 2, *a first foreign agent at node A, FA1*), wherein the first SGSN services a first Base Station System (BSS) (155, Fig. 1, see page4, par. 0042, *a first AP that is connected to the FA1, not shown in*

Art Unit: 2665

Fig. 2) that provides communication services to the mobile station (see page 4, par. 0043, *the MN at the node A is registered with the FA1*); assembling a Neighbor List (see page 3, par. 0016 and page 5, par. 0052, *creating a table containing identifiers/IP addresses of neighboring networks*) that comprises a plurality of communication channels, wherein a communication channel of the plurality of communication channels is associated with a second BSS (155, Fig. 1, see page 4, par. 0042, *a second AP that is connected to and communicated with a second foreign agent, FA2, not shown in Fig. 2)* that is serviced by a second SGSN (FA2, Fig. 2, *the second foreign agent*) that is different from the first SGSN (see Fig. 2, *FA1 is different from FA2*); and at least partially registering the mobile station with the second SGSN prior to the mobile station being served by the second BSS (see page 2, par. 0009 and page 5, par. 0049, *the MNA begins pre-registration handoff with the new FA2 while still in communication with the old FA1*).

Gwon does not explicitly teach the SGSN can accommodate a service node gateway GGSN and a foreign agent.

Soininen teaches a SGSN and a GGSN can be co-located with each other as well as a foreign agent, FA, can also be co-located together with SGSN + GGSN (see Fig. 1, page 4, par. 0040, *SGSN, GGSN and a FA can be integrated into one single node of a network*).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the foreign agents, FAs, of Soininen into the integrated FAs of Gwon to arrive the claimed invention as specified in claims 1 and 21 for hardware integration purpose.

The suggestion/motivation for doing so would have been to ease the hardware repair cost and maximize utilization of data center space.

Art Unit: 2665

Gwon does not explicitly teach the first SGSN or the second SGSN has at least a memory and a processor to store and execute instructions relating to the registration and pre-registration of the MNA to the first SGSN and the second SGSN.

Mizell teaches an SGSN apparatus that has a memory (208, Fig. 2, **a memory**) and a CPU (204, Fig. 2, **a processor**) that is capable of carrying out the storing and executing function relating to the registration and pre-registration of an SGSN (see col. 5, lines 31-54, ***Processing unit 204 executes the computer instructions within memory 208***).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the SGSN apparatus of Mizell into the integrated FAs of Gwon to arrive the claimed invention as specified in claims 1 and 21 for conforming with a basic hardware configuration of packet switch requirements.

The suggestion/motivation for doing so would have been to provide a basic hardware requirement of an SGSN to carry out inter-network communication between telecommunication devices.

Regarding claims 2 and 22, Gwon, Soininen and Mizell teach all limitations set forth in the rejection of claims 1 and 21. Gwon further teaches wherein at least partially registering comprises conveying, by the first Serving GPRS Support Node (SGSN) to the second SGSN, at least a portion of registration information associated with the mobile station (step 302 and 303, Fig. 3b, page 5 and 6, par. 0053, ***the FA1 receives a handoff request of the MNA and send the handoff request to the target FA such as FA2 of Fig. 2***).

Regarding claims 3, 4, 5, 8, 9 and 24, Gwon, Soininen and Mizell teach all limitations set forth in the rejection of claims 1 and 21. Gwon further teaches wherein at least partially registering the mobile station with the second Serving GPRS Support Node (SGSN) comprises: receiving registration information from the mobile station (see page 5 and 6, par. 0053); and conveying the received registration information to the second SGSN (see page 5 and 6, par. 0053).

Regarding claim 7, Gwon and Soininen teach all limitations set forth in the rejection of claim 4. Gwon teaches receiving, a request to pre-register the MNA to the second Serving GPRS Support Node (SGSN), by the first Serving GPRS Support Node (SGSN) from the first Base Station System (BSS) (AP 155, Fig. 1, *the first AP*) (see page 4, par. 0039, *the mobile node MNA communicate with its foreign agent through its radio access point 155*).

Regarding claims 10 and 23, Gwon, Soininen and Mizell teach all limitations set forth in the rejections of claims 1 and 21. Gwon teaches receiving, by the mobile station, an instruction to pre-register with the second Serving GPRS Support Node (SGSN) (see page 4, par. 0044); and in response to receiving the instruction, conveying, by the mobile station to the second SGSN, at least a portion of registration information associated with the mobile station (see page 5 and 6, par. 0053).

Regarding claim 11, Gwon, Soininen and Mizell teach all limitations set forth in the rejection of claim 10. Gwon teaches conveying by the mobile station to the second Serving

Art Unit: 2665

GPRS Support Node (SGSN) comprises conveying registration information to the first SGSN (see page 6, par. 0054).

Regarding claim 35, Gwon, Soininen and Mizell teach all limitations set forth in the rejection of claim 21. Gwon teaches the apparatus of the second Foreign Agent, FA2, Fig. 2. Gwon also teaches the FA2 receives registration information of the MMA from the first FA1, Fig. 2, (see page 5 and 6, par. 0053). Soininen teaches the FA2 can be co-located with a SGSN and GGSN. This configuration should satisfy the limitation wherein the apparatus further comprises the second SGSN, wherein the second SGSN receives registration information associated with the mobile station from the first SGSN. Mizell teaches each SGSN comprises at least a processor to execute functions relating SGSN's requirements and a memory to store and assist in transmitting any data that the SGSN needs to process (see col. 5, lines 31-54, *Processing unit 204 executes the computer instructions within memory 208*).

Regarding claim 38, Gwon teaches a SGSN establishes a communication link with a Base Station System associated with the second SGSN prior to the mobile station communicating with the second SGSN (see page 2, par. 0009 and page 5, par. 0049, *the MNA begins pre-registration handoff with the new FA2 while still in communication with the old FA1*). Mizell teaches a Serving GPRS Support Node (SGSN) further establishes a communication link with at least one of a Gateway GPRS Support Node (GGSN), 148, Fig. 1 (see col. 4, lines 61-67).

4. Claims 6, 12-13, 17, 20, 28, 30, 34, 36-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gwon in view of Soininen and further in view of Mizell and further in view of Lupien et al. (US 6,463,005) hereinafter is referred as Lupien.

Regarding claims 6, 28, 36, 37, Gwon, Soininen and Mizell teach all limitations set forth in the rejections of claims 4, 21 and 35. Gwon further teaches receiving, by the second Serving GPRS Support Node (SGSN) from the mobile station (steps 302 and 303, Fig. 3b), a request to pre-register the mobile station with the second SGSN (see page 5 and 6, par. 0053).

Gwon and Soininen do not expressly teach a) conveying, by the second SGSN to the first SGSN, a request for at least a portion of registration information associated with the mobile station; b) receiving, by the first SGSN from the second SGSN, the request for at least a portion of the registration information; and c) wherein conveying comprises, in response to receiving the request from the second SGSN, conveying, by the first Serving GPRS Support Node (SGSN) to the second SGSN, at least a portion of the registration information associated with the mobile station.

Lupien teaches steps a) (step 113, Fig. 8, see col. 27, lines 7-16); b) (step 113, Fig. 8, see col. 27, lines 7-16); and c) (steps 114 and 115, Fig. 8, see col. 27, lines 7-16, *the old SGSN returns a SGSN Context Response*).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the steps a)-c) of Lupien into the handoff pre-registration request of Gwon and Soininen to arrive the claimed invention as specified in claims 6, 21 and 35 to provide an integration of packet data and voice services in an efficient way.

The suggestion/motivation for doing so would have been to provide an integration of packet data and voice services in an efficient way (see col. 5, lines 45-47).

Regarding claim 12, Lupien teaches the Neighbor List informs of a Routing Area (RA) associated with each communication channel of the plurality of communication channels (see col. 26, lines 62-64).

Gwon teaches wherein at least partially registering comprises: determining the second Base Station System (BSS) that is serviced by the second Serving GPRS Support Node (SGSN) that is different than the first SGSN Based on the Routing Area associated with each communication channel of the plurality of communication channels included in the Neighbor List (see page 4, par. 0039, page 5 and 6, par. 0049, 0050 and 0053); and at least partially registering the mobile station with the second SGSN based on the determined second BSS and prior to the mobile station being served by the second BSS (see page 2, par. 0009 and page 5, par. 0049, *the MNA begins pre-registration handoff with the new FA2 while still in communication with the old FA1*).

Regarding claims 13 and 39, Gwon, Soininen and Mizell teach all limitations set forth in the rejection of claims 1 and 21. Gwon teaches wherein each communication channel of the plurality of communication channels is associated with a Base Station System (BSS) (see Fig. 1, page 4, par. 0039, *each AP is in communication with at least a FA*); determining the second BSS that is serviced by the second SGSN that is different than the first SGSN based on the Routing Areas broadcast by each BSS associated with a communication channel of the plurality

Art Unit: 2665

of communication channels (see Fig. 2, page 5, par. 0049, *FA1 is different from FA2 and the AP2 under the control of FA2 is different from the AP1 under the control of FA1. L2 triggers a handoff is imminent as the MNA is about to lose signal with its AP*); and at least partially registering the mobile station with the second SGSN based on the determined second BSS and prior to the mobile station being served by the second BSS (see page 2, par. 0009 and page 5, par. 0049, *the MNA begins pre-registration handoff with the new FA2 while still in communication with the old FA1*).

Lupien teaches broadcasting, by each BSS associated with a communication channel of the plurality of communication channels, information concerning a Routing Area associated with the BSS (see col. 6, lines 25-45, col. 8, lines 35-61 and col. 9, lines 55-64, *each neighboring Routing Area that associates with a BSS/AP broadcasts its location identifier so any mobile station/node that is about roaming or in its servicing area is able to know where it is currently locating*).

Regarding claims 17 and 34, Lupien teaches determining a geographical location of the mobile station (col. 6, lines 25-45). Gwon teaches determining to pre-register the mobile station with the second Serving GPRS Support Node (SGSN) based on the determined location of the mobile station (see page 4, par. 0044 and page 5, par. 0049).

Regarding claim 20, Gwon teaches determining a boundary between a area associated with the first Base Station System (BSS) and a coverage area coverage associated with the second BSS and wherein determining to pre-register the mobile station comprises determining to

pre-register the mobile station with the second Serving GPRS Support Node (SGSN) based on the determined location of the mobile station relative to the boundary (see page 4, par. 0044 and page 5, par. 0049).

Regarding claim 30, Mizell teaches the first SGSN has a processor (204, Fig. 2). Gwon teaches the first SGSN assembles a Neighbor List/Table corresponding to the mobile station and comprising a plurality of broadcast channels and wherein the Neighbor List comprises a Servicing Area associated with at least one broadcast channel of the plurality of broadcast channels (see page 3, par. 0016 and page 5, par. 0052, *creating a table containing identifiers/IP addresses of neighboring networks*).

Lupien teaches the Servicing Area is a Routing Area (see col. 6, lines 25-45, col. 8, lines 35-61 and col. 9, lines 55-64, each neighboring Routing Area that associates with a BSS/AP broadcasts its location identifier so any mobile station/node that is about roaming or in its servicing area is able to know where it is currently locating).

5. Claims 14-16, 25-27 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gwon in view of Soininen and further in view of Mizell and further in view of Vaara (US 6,400,951).

Regarding claims 14, 15, 16 and 32-33, Gwon, Soininen and Mizell teach all limitations set forth in the rejection of claims 1 and 21. Gwon teaches pre-registering the mobile station with the second Serving GPRS Support Node (SGSN) and the second BSS associated with the second SGSN based on predetermined policies (see page 5, par. 0052); and at least partially

Art Unit: 2665

registering the mobile station with the second SGSN prior to the mobile station being served by the second BSS (see page 2, par. 0009 and page 5, par. 0049, *the MNA begins pre-registration handoff with the new FA2 while still in communication with the old FA1*).

Gwon does not expressly teach determining the second SGSN and the associated second BSS based on a signal quality metric for a communication channel that is associated with the second BSS and the second SGSN.

Vaara teaches determining a signal quality metric for the communication channel that is associated with the second Base Station System (BSS) (see col. 1, lines 9-29, *measuring a quality and signal level of the radio link in the source base station and mobile station/node, measuring a quality and signal level of the radio link in the target base station and mobile station/node and performing the handoff to the target cell*); determining the second Serving GPRS Support Node (SGSN) based on the signal quality metric (see col. 1, lines 9-29).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the determination of a signal quality of Lupien into the determination of a signal quality metric for handoff pre-registration request of Gwon to arrive the claimed invention as specified in claim 14 to provide a flexibility in offering individual mobile station subscribers special tailored services preferably throughout the entire call.

The suggestion/motivation for doing so would have been to provide a flexibility in offering individual mobile station subscribers special tailored services preferably throughout the entire call (see col. 6, lines 4-7).

Regarding claim 25, Mizell teaches the first SGSN has a memory 208, Fig. 2 that is capable of carrying out the registration and pre-registration of Gwon's invention.

Regarding claim 26, Gwon teaches the pre-registration request identifies the second Serving GPRS Support Node (SGSN) (see page 5, par. 0052, *the Address field contains candidate target addresses*).

Regarding claim 27, Gwon teaches wherein the first Serving GPRS Support Node (SGSN) identifies the second Serving GPRS Support Node (SGSN) in response to receiving the pre-registration request (step 303, Fig. 3b).

6. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gwon in view of Soininen and further in view of Mizell and further in view of Vaara and further in view of Lupien.

Regarding claim 31, Gwon, Soininen and Mizell teach all limitations set forth in the rejection of claim 21. They do not expressly teach the first BSS comprises a controller that assembles a Neighbor List corresponding to the mobile and the Neighbor List comprises a Routing Area associated with at least a BSS.

Vaara teaches a controller assembles a Neighbor List corresponding to the mobile (step 43, Fig. 4, col. 7, lines 34-39).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the determination of a signal quality of Vaara into the determination of a

Art Unit: 2665

signal quality metric for handoff pre-registration request of Gwon to arrive the claimed invention as specified in claim 31 to provide a flexibility in offering individual mobile station subscribers special tailored services preferably throughout the entire call.

The suggestion/motivation for doing so would have been to provide a flexibility in offering individual mobile station subscribers special tailored services preferably throughout the entire call (see col. 6, lines 4-7).

Lupien teaches a Neighbor List comprise a Routing Area associated with a BSS (see col. 26, lines 62-64).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ an identification of a Routing Area in a Neighbor List of Lupien into the handoff pre-registration request of Gwon, Soininen, Mizell and Vaara to arrive the claimed invention as specified in claim 31 to provide an integration of packet data and voice services in an efficient way.

The suggestion/motivation for doing so would have been to provide an integration of packet data and voice services in an efficient way (see col. 5, lines 45-47).

7. Claims 18-19 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gwon in view of Mizell and further in view of Lupien and further in view of Vaara.

Regarding claim 18, Gwon, Soininen, Mizell and Lupien teach all limitations set forth in the rejection of claim 17. Gwon teach determining to pre-register the mobile station with the second SGSN and the associated second BSS based on predetermined policies. Gwon does not

Art Unit: 2665

expressly teaches determining a geographical location of the mobile station relative to a geographical location of the second Base Station System (BSS) and determining to pre-register the mobile station with the second Serving GPRS Support Node (SGSN) based on the determined location of the mobile station relative to the Geographical location of the second BSS.

Vaara teaches determining a geographical location of the mobile station relative to a geographical location of the second BSS and determining to register the mobile station with the second SGSN based on the determined location of the mobile station relative to the Geographical location of the second BSS (see col. 9, line 49 – col. 10, line 25)

Regarding claim 19, Gwon, Soininen, Mizell and Lupien teach all limitations set forth in the rejection of claim 17. Gwon teaches determining to pre-register the mobile station. Vaara teaches determining a coverage area associated with the second Base Station System (BSS) and wherein determining to pre-register the mobile station comprises determining to pre-register the mobile station with the second Serving GPRS Support Node (SGSN) based on the determined location of the mobile station relative to the coverage area associated with the second BSS (see col. 9, lines 49 – col. 10, line 25).

Regarding claim 29, Gwon teaches the first SGSN that maintains the registration information and conveying to the second SGSN at least a portion of the registration information maintained in at least one device (steps 302 and 303, Fig. 3b, page 5, par. 0051 – page 6, par.

Art Unit: 2665

0053). Mizell teaches the first SGSN has a memory 208, Fig. 2 that is capable of storing, maintaining or conveying the registration and pre-registration device of Gwon's invention.

8. Claims 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gwon in view of Soininen and further in view of Mizell and further in view of Lupien and further in view of Vaara.

Regarding claim 40, Gwon teaches a mobile station (135, Fig. 2, *MNA*) operates to receive a Neighbor List comprising a plurality of communication channels (155, Fig. 1, see page 4, par. 0042, *an AP that is a relay point of communication between the MNA and a foreign agent, FA2, Fig. 2*); and conveys to an infrastructure a request to pre-register the mobile station in a Servicing Area associated with a communication channel of the plurality of communication channels prior to the mobile station being served by a Base Station System associated with the communication channel of the plurality of communication channels (see page 2, par. 0009 and page 5, par. 0049, *the MNA begins pre-registration handoff with the new FA2 while still in communication with the old FA1*).

Gwon does not teach a Servicing Area associated with a SGSN. Inherently, an FA is associated with a Servicing Area.

Soininen teaches a SGSN and a GGSN can be co-located with each other as well as a foreign agent, FA, can also be co-located together with SGSN + GGSN (see Fig. 1, page 4, par. 0040, *SGSN, GGSN and a FA can be integrated into one single node of a network*).

Art Unit: 2665

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the foreign agents, FAs, of Soininen into the integrated FAs of Gwon to arrive the claimed invention as specified in claim 40 for hardware integration purpose.

The suggestion/motivation for doing so would have been to ease the hardware repair cost and maximize utilization of data center space.

Gwon does not expressly teach the mobile station comprises at least a memory device and a processor operate to receive and store a Neighbor List; and the Servicing Area associated with a communication channel of the plurality of communication channels is a Routing Area.

Mizell teaches a mobile terminal (Fig. 3) comprises a memory device (308, Fig. 3, *a memory*) and a processor (304, Fig. 3, *a processor*) that is capable of storing and processing instructions define the operational logic of the mobile terminal (see col. 6, lines 10-33).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the mobile terminal of Mizell into the mobile station of Gwon to arrive the claimed invention as specified in claim 40 for providing a functional handheld wireless terminal.

The suggestion/motivation for doing so would have been to provide a basic hardware requirement of a mobile terminal to carry out communication between telecommunication devices.

Lupien teaches the Servicing Area is a Routing Area (see col. 6, lines 25-45, col. 8, lines 35-61 and col. 9, lines 55-64, *each neighboring Routing Area that associates with a BSS/AP*

Art Unit: 2665

broadcasts its location identifier so any mobile station/node that is about roaming or in its servicing area is able to know where it is currently locating).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the identification of the Routing Area of Lupien into the handoff pre-registration request of Gwon and Mizell to arrive the claimed invention as specified in claim 40 to provide an integration of packet data and voice services in an efficient way.

The suggestion/motivation for doing so would have been to provide an integration of packet data and voice services in an efficient way (see col. 5, lines 45-47).

Vaara teaches a mobile station that can receive, store and transmit a cell list (*Neighbor List*) to its support network (see col. 11, lines 23-28).

It would have been obvious to one of ordinary skill in the art, at the time invention was made, to employ the mobile station of Vaara into the mobile node A of Gwon to arrive the claimed invention as specified in claim 40 to provide a flexibility in offering individual mobile station subscribers special tailored services preferably throughout the entire call.

The suggestion/motivation for doing so would have been to provide a flexibility in offering individual mobile station subscribers special tailored services preferably throughout the entire call (see col. 6, lines 4-7).

Regarding claim 41, this claim has similar limitations with claim 20. Therefore, it is rejected under Gwon, Mizell, Lupien and Vaara for the same reasons set forth in the rejection of claims 20 and 40.

Regarding claim 42, this claim has similar limitations with claims 1 and 41. Therefore, it is rejected under Gwon, Mizell, Lupien and Vaara for the same reasons set forth in the rejection of claims 1 and 40.

Regarding claim 43, Gwon teach the processor conveys the pre-registration request to a serving Base Station System (155, Fig. 1, *AP*, see page 4, par. 0042, *an AP that is a relay point of communication between the MNA and a foreign agent, FA1/FA2, Fig. 2*).

Regarding claim 44, this claim has similar limitations with claim 43. Therefore, it is rejected under Gwon, Mizell, Lupien and Vaara for the same reasons set forth in the rejection of claim 43.

Regarding claim 45, Gwon teaches wherein the processor further receives an instruction to pre-register and conveys the pre-registration request in response to receiving the instruction to pre-register (see page 4, par. 0044 and page 5, par. 0049).

Response to Arguments

9. Applicant's arguments filed on 6/23/2005 have been fully considered but they are not persuasive.

Regarding to applicant's argument on page 12, lines 20-22, "SGSNs are not FAs. The FA is at Layer 3 (L3) (see paragraph 0039 of Gwon). The SGSN is part of Layer 2 (L2). Accordingly, claims 1 and 21 concern pre-registration for L2", first and foremost, examiner would like to remind the applicant that the feature SGSN is part of Layer 2 is not in claims 1 and 21. Secondly, base on applicant's own admission on page 10, lines 21-27 of the application's specification, it is clearly said that the applicant's SGSN is capable of communicating with the BSS using a routing address such as an Internet Protocol (IP) address.

Regarding to the applicant's argument on page 13, lines 7-13 that Gwon's reference does not teach at least partially registering the mobile station with the second SGSN prior to the mobile station being served by the second BSS and "nowhere does Gwon address authentication and registration for L2". Examiner would like to point out that the features of "authentication and registration for L2" are nowhere to be found in either claim 1 or 2. In addition to that, in Gwon's cited reference on page 2, paragraph [0009], Gwon clearly stated that in the Mobile IP registration process, one technique is "pre-registration handoff" which allows the MN to communicate with a new FA while still connected to the old FA. Examiner respectfully believes that the cited reference has met the claimed limitation in claims 1 and 2.

Regarding to the applicant's argument on page 14, lines 8-21 of the amended claim 40 that Gwon's FA is not an SGSN and Lupien's SGSN Routing Area cannot be equated to a Service Area taught by Gwon. As examiner has pointed out in the rejection of claim 1, Soininen taught an SGSN, a GGSN and an FA can be co-located and integrated into a single node of a

Art Unit: 2665

network (see Fig. 1, page 4, paragraph 0040); therefore, Lupien's SGSN Routing Area can be equated to a Service Area taught by Gwon.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

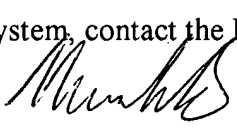
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Khuong whose telephone number is 571-272-3157. The examiner can normally be reached on 9AM - 5PM.

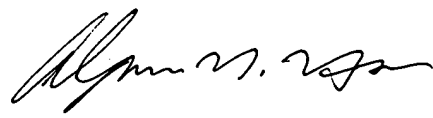
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2665

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lee T. Khuong
Examiner
Art Unit 2665



ALPUS H. HSU
PRIMARY EXAMINER